

**SOUTHERN CALIFORNIA
EDUCATION AND RESEARCH
CENTER FOR OCCUPATIONAL
SAFETY AND HEALTH**

SUMMARY ANNUAL REPORT

JULY 1, 2013 – JUNE 30, 2014

NIOSH TRAINING GRANT NO. T42 OH 008412

SUBMITTED BY:

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SECTION I

1. Summary of SCERC Objectives and Programs

The purposes of the Southern California NIOSH Education and Research Center are 1) to educate professionals in the various disciplines of occupational health and safety, 2) to provide continuing education for professionals and others in occupational safety and health fields, 3) to proliferate occupational health and safety activity through outreach to regional institutions and organizations, 4) to foster research on issues important to occupational health and safety, 5) to be an occupational health and safety resource to organizations and agencies that need our expertise, 6) to facilitate marshaling of community resources to address and solve occupational health and safety problems, 7) to respond through educational programs and research to the changing range of occupational safety and health problems, and 8) to educate non-academic stakeholders including business, labor, and vulnerable worker populations.

The characteristics of our Center are embodied in a coordinated, interdisciplinary set of professional education, continuing education, research and outreach activities that have a positive impact on the region's and nation's occupational health and safety practice. The Center has seven programs, five at the University of California, Los Angeles (UCLA), one at the University of California, Irvine (UC Irvine), and two center-wide programs. The UCLA programs are: Industrial Hygiene, Occupational and Environmental Health Nursing, Center Administration and Planning, Continuing Education, Outreach. UC Irvine hosts the Occupational Medicine Program. The center-wide programs are the Pilot Project Research Training and Targeted Research Training Program. The TRT includes Collaborative Research Training Program in Occupational Epidemiology and a special research training addressing work organization and psychosocial risk factors. Degrees offered by ERC programs include MPH, MS, MSN, PhD, DrPH, occupational medicine residency and other professional certificates.

The ERC operates in concert with the UCLA and UCI Centers for Occupational and Environmental Health (COEH). These are state supported centers for research and teaching in occupational safety and health. Together the ERC and COEH represent a unique and effective partnership between state and federal funding.

Together UCLA and UCI have outstanding facilities and resources for occupational and environmental health education and research programs. These two campuses of the University of California have libraries, laboratories, clinics, and computer facilities that are up-to-date and extensive. The Southern California region contains a wide variety of employers, labor unions, worksites, organizations and institutions that provide a full range of field sites for interdisciplinary learning.

2. Public Health Relevance

The Southern California ERC meets regional and national academic and professional training needs in occupational health and safety. Each year, our Continuing Education Program offers ca. 125 training courses for over 1,000 professionals from more than 300 different companies, non-profit organizations, government agencies (including local, state and federal government and military), and educational institutions. Our interdisciplinary coordinated academic master, doctoral, and post-doctoral training programs in industrial hygiene, occupational medicine, and occupational and environmental health nursing produce leaders in both academic and professional fields related to

occupational health and safety who are hired by private industry, government agencies, and educational institutions around the country. These programs help to address a forecasted severe shortage in occupational and environmental health professionals. Our pilot and targeted research training programs enable our graduates to conduct applied research on priority topics identified for each industrial sector by key stakeholders in the National Occupational Research Agenda.

3. Key Personnel

Niklas Krause, MD, MPH, PhD,
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4. Weblink SCERC:

www.ph.ucla.edu/erc/index.html

SECTION II

SCERC Program Highlights 2013-2014

Occupational Medicine Program
Program Director Dean Baker

The Southern California ERC occupational medicine residency program based at the University of California, Irvine, provides clinical occupational health services to many high risk employers in the Southern California region. The clinical program provides outstanding training experiences for the occupational medicine residents and has been the basis of NIOSH-funded research. Examples of programs include wellness-fitness evaluations for public safety personnel, including firefighters, police, and emergency response personnel; as well as performing worksite-based surveillance evaluations of workers in food flavoring industries with potential exposure to diacetyl.

The Occupational Medicine residency program based at the University of California, Irvine, has earned a reputation among the armed services as one of the most outstanding programs in the country. The program has a highly successful record of enrolling and graduating US Naval medical

officers who are approved and funded by the US Navy for extramural occupational medicine specialty training. The training program is enriched by having a larger complement of trainees supported both by NIOSH and the US Navy.

The faculty of the Southern California ERC Occupational Medicine Residency program based at the University of California, Irvine, received regional and national recognition for their outstanding contributions to the field of occupational medicine. For example, Dr. Dean Baker received the Robert Kehoe Award from the American College of Occupational and Environmental Medicine which is a lifetime achievement award for excellence in research and education in occupational and environmental medicine. Dr. Leslie Israel served as the elected president and then chair of the board of the Western Occupational and Environmental Medicine Association. Dr. Ulrike Luderer was reappointed by the State of California Governor as the chair of the California Environmental Contaminant Biomonitoring Program Scientific Guidance Panel.

Occupational and Environmental Health Nursing Program **Program Director Wendie A. Robins**

This was a successful year for OEHN program initiatives. Aiming to expand the impact of our nurse practitioner NIOSH trainees and graduates on multicultural/multilingual worker populations, we developed relationships with independent occupational health clinics that service small employers located in culturally diverse areas of Southern California. Students participated in clinical rotations, health promotion activities and evaluation research within the clinics. The initiative occurred in tandem with Song Brown program funding for the School of Nursing. Of note, two of our three NIOSH trainee nurse practitioner students chose employment upon graduation this year in clinics serving primarily multicultural/multilingual populations and our PhD graduate entered postdoctoral training with the UCLA Center for Vulnerable Populations Research where she will continue research on occupational safety and health related to subsistence farming.

Industrial Hygiene Program **Program Director Shane Que Hee**

Doctoral student Siavash Banaee completed permeation testing of disposable Nitrile gloves (Blue, purple, Silver, and Lavender) against the air freshener solvent, limonene, by the closed-loop ASTM method with water as collection solvent. GC-MS analyses revealed that the glove order shown above (in decreasing thickness) was the order of decreasing protection with Lavender being unacceptable. Such hitherto unavailable information can be used immediately by workers in the field.

Doctoral student George Brogmus completed the collection of data for his janitor back pain study. The study included an educational intervention to decrease back pain. The results should be applicable to the work routines of janitors and other material handling workers.

IH faculty and their students were responsible for 2 posters and 2 podium presentations at the San Antonio AIHCe, the publication of 5 peer reviewed papers, and the award of 2 grants. Three UCLA IH students received AIHF Fellowships, 2 were awarded Los Angeles-Orange County Student Fellowships, and one was awarded an internal Tony Norton Fellowship.

Continuing Education Program

Program Director Cass Ben-Levi

The Continuing Education Program of the SCERC continues to be the premier continuing health and safety education program in Region IX (covering Arizona, California, Guam, Hawaii, and Nevada) along with our sister Northern California ERC at UC Berkeley. In 2013/2014 the CE program held 116 courses training a total of 1,192 health and safety professionals. These trainees came from more than 300 different companies, non-profit organizations, government agencies (including local, state and federal government and military), and educational institutions.

Targeted Research Training Program

Program Directors Dean Baker (UCI) and Niklas Krause (UCLA)

The Southern California ERC Targeted Research Training program continues to provide research training in the area of work organization and psychosocial factors (WOPS), which involves a multi-disciplinary collaboration of faculty and trainees in the fields of occupational medicine, exposure assessment, occupational health psychology, epidemiology, and cardiovascular medicine. Doctoral research training in this area also occurs through the Collaborative Research Training Program (CRTP) in occupational epidemiology. During the past year, the WOPS training area has provided training to one masters student, one doctoral student, one post-doctoral trainee, and four visiting professors from Columbia, Korea, and China. The program impacts regionally, nationally, and internationally.

Aolin Wang, MD, MSc, the first trainee of the new Collaborative Research Training Program (CRTP) in occupational epidemiology at UCLA successfully advanced to PhD candidacy in the UCLA Epidemiology Program. Her research on the effects of shift work and especially weekend work on 11-year progression of carotid atherosclerosis in working middle-aged men has been accepted for presentation at the 2nd IEA World Congress of Epidemiology in Anchorage, Alaska, and for publication in the American Journal of Industrial Medicine.

George Brogmus, PhD cand., MS, CPE, MIEHF, supported by the SCERC Targeted Research Training Program successfully completed data gathering for a cross-over controlled worksite intervention trial to prevent low back injuries among UCLA janitorial workers. The project has successfully moved into the data analysis phase.

Pilot Project Research Training Program

Program Director Niklas Krause

The objective of the Southern California ERC Pilot Project Research Training Program is to enhance the research training opportunities for ERC and TPG trainees, junior faculty, and young investigators in Region IX by providing funding for pilot research projects via a peer-review process utilizing external reviewers. These pilot research projects may be small studies or short-term research projects to explore feasibility, to collect preliminary data, or to develop plans for more extensive research projects supported by other more long-term funding. During the 2013-14 period we received 7 high quality applications and were able to fund four of them. The projects represent applied research addressing a wide range of occupational health issues: Ergonomic-biomechanical evaluation of hotel room cleaning tasks: bed-making with and without mattress-

lifting tool and with and without fitted sheets; Evaluation of air pollutants in LA taxi driver cabins with and without cabin filter; case-control study of occupational exposure to electric shocks and magnetic fields and amyotrophic lateral sclerosis using the Swedish patient register from 1987 to 2009; Job satisfaction, work environment, and successful aging as determinants of retention of older acute care nurses.